



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET SW
ATLANTA, GEORGIA 30303-8960

SENT VIA ELECTRONIC MAIL

Mr. Lee Goldstein
Vice President of Finance
TT&E Iron & Metal
1529 West Garner Road
Garner, North Carolina 27529
lee@ttande.com

Dear Mr. Goldstein:

Enclosed is a copy of the final report generated by the U.S. Environmental Protection Agency's Region 4, South Air Enforcement Section, for the inspection conducted at the TT&E Iron & Metal facility, located in Garner, North Carolina, on March 31, 2022.

If you have any questions, you can contact me at (404) 562-9134, or by email at taylor.kevin@epa.gov.

Sincerely,

Kevin Taylor
Environmental Engineer
South Air Enforcement Section

Enclosures

ENCLOSURE A
INSPECTION REPORT
MAY CONTAIN CONFIDENTIAL BUSINESS INFORMATION

**United States Environmental Protection Agency (EPA) Region 4
Air Enforcement Branch
Inspection Report**

I. GENERAL INFORMATION

Facility Name: TT&E Iron & Metal

Location (Address): 1529 West Garner Road, Garner, North Carolina

Inspection Date: March 31, 2022

Type of Inspection (Full or Partial Compliance Evaluation):
Partial Compliance Evaluation

ICIS-Air Number: NC0000003709200806

EPA Region 4 Investigator(s)/Inspector(s):

1. Kevin Taylor, Environmental Engineer
2. Katelyn Bergl, Environmental Engineer
3. Steve Rieck, Environmental Scientist

State/Local Investigator(s)/Inspector(s):

1. Tom Harris, Environmental Specialist, North Carolina Department of Environmental Quality (NCDEQ)

Person(s) Contacted at Facility (Name and Title):

1. Lee Goldstein, Vice President of Finance

Report Prepared by: Kevin Taylor

II. FACILITY INFORMATION

A. Facility and Permit Information

| Facility and Permit Information | Comments |
|--|---|
| 1. Type of facility (e.g., chemical plant, refinery, cement manufacturer, etc.). | Recyclable Material Merchant Wholesalers; Automobile and Scrap Metal Shredding and material recovery processes |
| 2. Air permit number(s) and type of permit (e.g., Title V, PSD, Synthetic Minor, etc.). | NCDEQ Air Permit Number 09924R06 |
| 3. Air permit issuance date. | 08/16/2021 |
| 4. Air permit expiration date. | 07/31/2029 |
| 5. Facility classification (Major, Synthetic Minor/Conditional Major, Minor). | Synthetic Minor |
| 6. Major source pollutants (if applicable). | N/A |
| 7. Applicable regulations (e.g., State Implementation Plan, MACT Subpart FFFF, NSPS Subpart EEEE, etc.). | State Implementation Plan 40 CFR Part 82 |
| 8. Types of air emission points (e.g., tanks, process vents, boilers, etc.). | Metal Shredder Hammer Mill |
| 9. Types of air pollution control equipment (e.g., baghouse, scrubber, afterburner, etc.). | Water Spraying and foam injection at the hammer mill for particulate matter; cyclone system for particulate matter control at ferrous separation process. |

B. Process Description

TT&E Iron & Metal is a scrap metal processing facility in Garner, North Carolina that operates under the NAICS code 423930 for Recyclable Material Merchant Wholesalers. The facility operates an automobile shredder with a permitted maximum processing

capacity of 200 tons per hour. TT&E Iron & Metal does not own or operate any other facilities.

The facility was issued Synthetic Minor Air Permit No. 09924R06 by the NCDEQ on August 16, 2021. The permit limits shredder operations to 792,000 tons per year of production throughput and volatile organic compound (VOC) emissions are limited to 100 tons per year. The facility employs approximately 60 employees. Facility hours are M-F, 8 AM – 4:30 PM and Saturday, 8 AM – 12 PM. The shredder is normally operated M-F, 7:30 AM – 4:30 PM and Saturday, 7:30 AM – 12 PM.

The facility provides scrap metal recycling services for industrial businesses, small businesses, and individuals. The facility purchases scrap materials, including automobiles, appliances, tin scrap, and e-waste.

After purchase, metal scrap is sorted and prepared for recycling at the facility through the use of the facility's shearing, torching, sorting and metal shredder operations. The facility operates a 4,000 horsepower Metso Texas metal shredder. The metal shredder is equipped with a water spraying system to prevent fires and minimize heat and particulate matter emissions. Scrap that has been shredded through the metal shredder is separated by downstream processing into ferrous, nonferrous, and automotive shredder residue (ASR). The facility utilizes a z-box and trommel for ferrous separation and material sizing. Particulate matter emissions from the ferrous separation processes are controlled through the use of a cyclone. Downstream, the facility utilizes three eddy-current systems in series to separate nonferrous materials from ASR. Nonferrous materials are further processed in the facility's X-Ray plant which isolates aluminum product. After the metal scrap has been processed it will be sold to recycled scrap metal buyers. ASR is disposed at a landfill.

III. INSPECTION ACTIVITIES

| Activity | Yes No NA | Comments |
|--|-----------------|---|
| Opening Meeting | | |
| 1. Date and time entered the facility. | Y | EPA Region 4 (R4) inspectors arrived at the facility on March 31, 2022, at 8:00 AM EDT. |
| 2. Credentials presented to facility personnel (include name and title). | Y | All inspectors presented their credentials to Lee Goldstein, Vice President of Finance |

| Activity | Yes No NA | Comments |
|--|-----------------|---|
| 3. Conducted an opening meeting to explain the purpose and objectives of the inspection. | Y | Inspectors held an opening meeting during which the purpose and objectives of the inspection were explained. EPA inspectors provided Mr. Goldstein with a copy of EPA's July 2021 Enforcement Alert, "Violations at Metal Recycling Facilities Cause Excess Emissions in Nearby Communities". |
| 4. Discussed safety issues. | Y | Inspectors discussed facility-specific safety and emergency procedures, including procedures for COVID-19 safety during the inspection. |
| 5. Discussed which records to be reviewed. | Y | Review of facility records was discussed. The following records were provided to EPA for review: <ul style="list-style-type: none"> - Sample "Material Purchase Ticket", for individual sales (peddlers) - Sample "Purchase Ticket", for commercial sales (dealers) - Refrigerant Recovery invoice from landfill scrap purchases - Daily Shredder Production Report - Refrigerant Statement from Facility Website - Facility Map - VOC emissions calculations for 2021 |
| 6. Discussed the facility walk-through and the areas to be observed in the facility. | Y | Inspectors were primarily interested in inspection of the metal shredder operation and refrigerant handling procedures. EPA R4 would be using a digital camera. |

| Activity | Yes No NA | Comments |
|---|-----------------|---|
| 7. Discussed facility policy regarding photographs or video (if applicable). | Y | Region 4 inspectors discussed facility policy regarding photography and videography. Inspectors indicated that copies of any videos or photographs taken at the facility would be sent to the company. A log of photographs taken at the facility is included in this report. See Appendix A. |
| 8. Discussed the use of the infrared camera, TVA, PID, and any other equipment. | N/A | |
| 9. Discussed CBI. | Y | EPA inspectors indicated that any material claimed to be Confidential Business Information (CBI) would be treated in accordance with regulations. |
| Records Reviewed at the Facility | | |
| 10. The types of records reviewed, and the time period reviewed. | N | |
| Facility Walk-Through Observations | | |
| 11. The process equipment observed and the associated operational rate observed. | Y | EPA Region 4 inspectors conducted an inspection of process areas, including the metal shredder operations, shredded scrap separation processes, scrap inspection process, and scrap sorting piles, beginning at approximately 8:20 AM EDT. See Appendix B for a description of EPA inspection observations. |
| 12. The type of process parametric monitoring observed and the associated value observed. | N/A | |

| Activity | Yes No NA | Comments |
|--|-----------------|---|
| 13. If process equipment or parametric monitoring equipment was not operating, state the reason by facility personnel why the equipment was not operating. | N/A | |
| 14. The type of air pollution control equipment, the process equipment it is controlling, and the associated parametric monitoring value observed. | Y | <p>The facility operates a water spraying system at the shredder. The primary function is heat reduction, but it is also used to reduce particulate matter emissions. The water injection into the hammermill is a function of the amp draw of the shredder motor. The amount of water injected into the shredder is recorded and can be manually adjusted when needed.</p> <p>The facility also operates a Z-box and cyclone to reduce particulate matter emissions during the ferrous material separation process. The Z-box is a “Z” shaped duct that helps to separate the finer materials while the material descends down the duct, hitting the inner steps and traveling against counterflowing air.</p> |
| 15. Continuous emissions monitoring devices and values observed. (e.g., CEMS, COMs, etc.). | N/A | |
| 16. If air pollution control equipment was not operating, state the reason by facility personnel why the equipment was not operating. | N/A | |

| Activity | Yes No NA | Comments |
|---|-----------------|--|
| 17. Capture and collection system (enclosures and hoods) observations, if applicable (e.g., the magnitude and duration of emission escaping capture from the hood). | N/A | |
| 18. Ductwork transferring the emissions to the air pollution control device observations, if applicable (e.g., the magnitude and duration of emission escaping from the ductwork, holes or deterioration in ductwork, no deterioration observed, etc.). | N/A | |
| 19. Any existing unpermitted emission points, new unpermitted emission points, or non-permitted construction activities observed. (if yes, describe in the comments field). | N | The company was informed of the EPA's potential concern of VOC emissions from metal shredders. |
| 20. Were any visible emissions observed? (if yes, identify the location and equipment). | N | |

| Activity | Yes No NA | Comments |
|--|--------------------------|---|
| 21. Was a Method 9 reading performed? (if yes, identify the location and equipment). | N | |
| 22. Was the cause of the visible emissions investigated and the information documented? | N/A | |
| 23. Was a Method 22 performed for visible emissions? (if yes, identify the location and equipment). | N | |
| 24. Identify the cause of the visible emissions as explained by facility personnel, if applicable. | N/A | |
| 25. Was the infrared camera used? If so, attach the video log (which includes the equipment ID, and the date and time the video was recorded) and videos to this report. | N | EPA R4 inspectors did not use an infrared camera at the facility. |

| Activity | Yes No NA | Comments |
|---|--------------------------|---|
| <p>26. Was the TVA used? If so, identify the equipment monitored and the results.</p> <p>Provide the date and time the information was recorded by the inspector. Include actual instrument readings for each piece of equipment monitored above the leak definition and/or where the infrared camera identified a release.</p> <p>An attachment may be used for a large amount of information.</p> | N | EPA R4 inspectors did not use a TVA at the facility. |
| <p>27. Was the PID used? If so, identify how the PID was used and the results.</p> <p>Provide the date and time the information was recorded by the inspector.</p> <p>An attachment may be used for a large amount of information.</p> | N | EPA R4 inspectors did not use a PID at the facility. |
| Closing Meeting | | |
| 28. Conducted a closing meeting. | Y | EPA Region 4 inspectors conducted a closing meeting on March 31, 2022, at 10:20 AM EDT. |
| 29. Summarize any additional information needed, if applicable? | Y | The facility agreed to provide EPA with information regarding the facility's basis for emission estimates via electronic mail after the inspection. |
| 30. Accept a declaration of CBI, if applicable? | N/A | |

| Activity | Yes No NA | Comments |
|---|--------------------------|---|
| 31. Discussed observations. | Y | Inspectors thanked facility personnel for their time and summarized the inspection activities. The company was informed of the EPA's potential concern of VOC emissions from metal shredders. The company was provided the EPA's July 2021 Enforcement Alert, "Violations at Metal Recycling Facilities Cause Excess Emissions in Nearby Communities" at the opening conference. The EPA also discussed improvements in recordkeeping and documentation for refrigerant handling. |
| 32. Discussed next steps, if applicable? | Y | A final inspection report from EPA Region 4 will be sent to the company within a 60-day timeframe. |
| 33. Date and time inspection concluded. | | The inspection concluded on March 31, 2022, at 10:30 AM EDT. |
| Miscellaneous | | |
| 34. Include any additional observations, if applicable. | N/A | |

EPA Investigator/Inspector Signature: _____

EPA Supervisor Signature & Title _____

Date Report Finalized: _____

APPENDICES AND ATTACHMENTS

1. Appendix A. Inspection Video and Photograph log
2. Appendix B. EPA Inspection Observations

Appendix A: Inspection Video and Photograph log

During the March 31, 2022, inspection, EPA Region 4 staff used a digital camera to take photographs at the TT&E Iron & Metal facility located in Raleigh, North Carolina. Below is an inventory of the images.

Table 1: Photographs taken during the March 31, 2022, inspection.

| File Number | Video/Image Description |
|--------------|-------------------------|
| P1010424.jpg | Scrap Pile |
| P1010425.jpg | Scrap Pile |
| P1010426.jpg | Scrap Pile |
| P1010427.jpg | Scrap Pile |
| P1010428.jpg | Shredder Operation |
| P1010429.jpg | Cyclone |
| P1010430.jpg | Shredder Operation |
| P1010431.jpg | Material Separation |
| P1010432.jpg | Fluff Pile |
| P1010433.jpg | Processed Scrap |
| P1010434.jpg | X-Ray Room |
| P1010435.jpg | Scrap Pile |
| P1010436.jpg | Facility Signage |
| P1010437.jpg | Scrap Pile |
| P1010438.jpg | Scrap Pile |
| P1010439.jpg | Scrap Pile |

Appendix B: EPA Inspection Observations

EPA Region 4 inspectors conducted an inspection of process areas, including the metal shredder operations, shredded scrap separation processes, scrap inspection process, and scrap sorting piles, beginning at approximately 8:20 AM EDT and concluding the walkthrough at 9:40 AM EDT.

The facility purchases scrap metal materials, including automobiles, appliances, and other tin scrap, from industrial suppliers as well as the general public. The facility also purchases electronics waste. There are two separate entrances for scrap intake at the facility: one for commercial suppliers, and another for the general public. Commercial suppliers are required to enter into a one-time contract with TT&E Iron & Metal to certify compliance with refrigerant regulations prior to scrap delivery. General public suppliers are required to sign a customer statement certifying compliance with refrigerant regulations at the time of sale. All general public scrap loads are inspected after the scale to be separated into the proper scrap piles. Commercial scrap loads consist mainly of automobiles and scrap metal. They do occasionally have refrigerant containing white goods but the refrigerant is recovered at the landfill by a TT&E Iron & Metal contractor. TT&E Iron & Metal has a standard operating procedure for the inspection of the commercial suppliers and there are stipulations in the commercial contract on prohibited items.

Prohibited material signage, including refrigerant-containing appliances, is posted near the general public entrance prior to the scale. Prohibited materials indicated by the signage include:

- Kegs
- Televisions or Computer Monitors
- Sealed Containers, Cans and Tanks (must be cut in half)
- Hazardous Waste and Material Containing PCBs
- Appliances containing CFCs, Capacitors, Mercury Switches

TT&E Iron & Metal does not provide ozone depleting substance (ODS) recovery and recycling services on site, although the facility does retain a contract with a certified technician to be utilized when scrap material containing refrigerants is found in the scrap yard. Additionally, the facility has, on occasion, required commercial suppliers to return and recover refrigerant from loads that were found to contain refrigerant. Except for automobiles that are received uncrushed, TT&E Iron & Metal does not conduct any fluid removal procedures on the scrap once it is purchased and received at the facility. Typically, the facility will set aside fuel tanks and other fluid containing components for a certain period of time reportedly sufficient for the fluids to have evaporated from the scrap before being shredded.

Scrap is sorted once it enters the scrap yard. The facility separates materials that need additional processing before being shredded, including materials which are too large or dense to be processed through the metal shredder that must be downsized before recycling. After the metal scrap has been sorted by the scrap inspectors, the scrap will either be sent to the facility's computer processing operation, wire separation operation, shearing operation, torching operation, or metal shredder operation.

The facility operates a 4,000 horsepower Metso Texas metal shredder. The metal shredder is equipped with a water spraying system to prevent fires and minimize heat. Scrap that has been shredded through the metal shredder is separated by downstream processing into ferrous materials, nonferrous materials, and automotive shredder residue (ASR). In 2021, approximately 35% of the scrap processed through the shredder was auto scrap. Facility personnel indicated that the shredder and downstream operations are capable of processing a maximum of 120 tons of scrap per hour. The facility indicated the use of the results of a performance test from another shredder facility to estimate TT&E Metal & Irons emissions. The facility uses the incoming scale tonnage for emission calculations.